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### **Repertoire of variants recruited by the environmental cues that occur during asexual reproduction**

**Alain Robichon**

University Nice Sophia Antipolis, France

The assumption that parthenogenesis leads to genetically identical individuals and that these clonal lineages are free from genomic variability has gained general acceptance. In this regard, sexual reproduction is usually portrayed as evolutionarily advantageous for the maintenance of genetic diversity. This is partly due to chromosomal recombination events and also because of the independent sorting of chromosomes that occurs through meiotic segregation. In our current study, we provide evidence that parthenogenesis in the aphid *Acyrtociphon pisum* in fact generates a significant degree of complex diversity in the resulting progeny. The asexual lineages generate clonal individuals that are far from phenotypically identical and manifest considerable molecular diversity. These data are therefore in accordance with the concept of a repertoire of variants that arises from a single founder mother with distinct behavioural and physiological characteristics. Our results suggest that the prevailing environmental conditions exert the largest influence on the adapted molecular profiles in the *A. pisum* lineages without ever abolishing the repertoire.

#### **Biography**

He obtained his PhD at the University Paris in biochemistry and doctorate in pharmaceutical sciences. He was Internship in Paris hospitals. He has completed Postdoc fellowship at Howard Hughes Medical Institute at Vanderbilt University Nashville (US) then at USCF (University California San Francisco, US). Assistant Professor at New York University (NYU), he was then appointed director of Research at CNRS at the University of Sophia Antipolis France. Presently he is co team leader in the department of "plants and insects" on molecular and behavior ecology and the main focus of his work is related to epigenetic regulation in clonality context.